Did general practice health assessments of older Australians improve equity?

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Abstract

Objective: To examine if claims for general practice health assessments of older persons in Australia over the period 1 November 1999 to 30 September 2002 were equitably distributed.

Design: Closed cohort study with data analysis using logistic regression.

Setting: Private general practice in Australia.

Participants: All Australians aged 75 or more years at 1 October 1999, who were eligible to claim for a health assessment.

Measures studied: Medicare and Department of Veterans' Affairs (DVA) medical claims data, and personal characteristics of claimants: age, sex, DVA beneficiary status, rurality and socio-economic status of postcode of residence. Rurality was classified by the Rural Remote and Metropolitan Area Classification (RRMA) and socio-economic status by the Index of Relative Socio-economic Deprivation (IRSD) for the postcode.

Results: The cohort initially contained 886 185 subjects. Over the 35 months, 271 939 individuals (31%) claimed at least one health assessment. Those most likely to have claimed for a health assessment were aged 80 to 84 years, female, entitled to treatment under DVA arrangements, lived in postcodes classified as RRMA 1–4 and classified as the most disadvantaged IRSD quartile.

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What is known about the topic?

Three previous studies that looked at equity of general practice health assessments of older persons in Australia using Health Insurance Commission claim data suggested that the distribution was equitable. These studies utilised unrepresentative samples and two were of short duration.

What does this paper add?

This study examines the uptakes for the whole Australian population over the first 35 months following the universal funding of health assessments

What are the implications for practitioners?

General practice appears to have targeted health assessments to those older persons at highest risk of adverse health outcomes.

Conclusion: Over this period, general practice health assessments appear to have been equitably distributed except for those living in postcodes classified as RRMA 5–7.

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A COMMITMENT TO removing inequity in health care outcomes underpins the policies that determine Commonwealth financing of health care in Australia.[1] In spite of this policy commitment, there is evidence that inequity in access to health interventions is not exceptional in Australia. It has been shown that longer general practice consultations (which are believed to be more effective at improving health status[2]) and community dispensing of the statin class of drugs (a proven intervention to prevent or treat cardiovascular disease[3]) are more likely to be accessed by those residing in more advantaged localities despite them being at lower risk of adverse health outcomes.

On the 1 November 1999, all Australians aged 75 or more years, who were not residents of a

residential aged care facility (RACF) became eligible to access reimbursement towards the cost of having a comprehensive health assessment performed by their general practitioner. Three meta-analyses of randomised controlled trials[4-6] suggest that health assessments conducted in the patient's home lower mortality, lessen the risk of nursing home admission, and slow the rate of functional decline.

The International Society of Equity in Health has defined equity as:

> the absence of systematic and potentially remediable differences in one or more aspects of health across populations or population groups defined socially, economically, demographically or geographically. Considerations of equity require not only attention to manifestations of ill health but also to risks of ill health as well as the potential for improved health.[7]

Among older Australians, health status is worse with increasing age,[8] among those treated under Department of Veterans' Affairs (DVA) arrangements,[9] those living in rural locations,[10] and in disadvantaged postcodes as indicated by the Index of Relative Socio-economic Deprivation (IRSD) of the Australian Bureau of Statistics (ABS).[11] There are sex differences in health status, with higher mortality for men,[12] but increased morbidity and residential care admission rates for women.[13,14] There is evidence from Canada, which has a similar health care system to Australia, that increased medical care, particularly general practice care, may ameliorate some of the differences in health outcomes seen in those from more disadvantaged backgrounds or from rural locations.[15] Thus, the personal characteristics of those who receive health assessments, an intervention with the potential to improve health status, will impact significantly on the assessment's ability to influence health outcomes.

Three previous studies that looked at equity of health assessments in Australia suggested that their distribution was in the main equitable.[16-19] However, these studies were incomplete and had methodological flaws. Two studies did not examine those treated under DVA arrangements, who constitute around 16 percent of this age group and are known to have a higher incidence of poorer health outcomes.[9] The study performed by Vinson[16] was confined to a small number of postcodes in two states, while the larger evaluation study performed by the South Australian group based its rurality and socio-economic classifications on the postcode of the claiming GP and not that of the patient.[17,18] The study based on the Australian Longitudinal Study on Women's Health data included 3181 subjects covering only women who were aged between 75 and 82 years.[19] The study found a lower rate of health assessment claims in small rural, other rural and remote areas classified as RRMA 4–7 (Rural Remote and Metropolitan Area Classification), but that income levels did not influence claims.

This study was designed to clarify the situation with regard to the equity of distribution of health assessments in Australia.

Methods

A specific sampling methodology was required to correct the known inaccuracies of the Health Insurance Commission (HIC) database for older Australians[20] and to ensure that the members of the sample were eligible for a health assessment reimbursement. Eligibility for the two Medicare Benefits Schedule (MBS) items covering health assessments (MBS items 700 and 702) required the patient to be aged 75 or more years and not to be a permanent resident of an RACF. The then HIC administered payment arrangements for those claiming under Medicare and DVA arrangements, storing these data for each quarter of the year. For ease of data extraction, data were examined in 12-month periods for the period 1 October 1999 until 30 September 2002. This meant that data for the first 35 months of health assessments were available for analysis.

The initial sample was for all Australian residents, aged 75 or more years at 1 October 1999 who had claimed a GP consultation item in the period 1 October 1999 to 30 September 2000, and had not claimed a general practice RACF consultation item in the previous 12 months. The members of the cohort were therefore alive on 1 October

1999, able to access a private GP and eligible to claim for a health assessment item. In each of the following 12-month periods (1 October 2000 to 30 September 2001 and 1 October 2001 to 30 September 2002) data were extracted for those who had claimed a GP consultation item in that period and had not claimed a general practice RACF consultation item in the previous 12 months. Thus, those who were admitted to an RACF or did not make a GP attendance item claim (and so had most likely died or left Australia) were censored from the cohort.

In each 12-month period, those who claimed for MBS items 700 or 702 were identified. De-identified personal characteristics of age at 1 October in the sampling period, sex, DVA beneficiary status, RRMA classification[21] and the Index of Relative Socio-economic Deprivation (IRSD)[22] quartile of postcode of residence of the patient were obtained for all subjects from the database. Where the subject changed postcodes during the sampling period they were classified as living in the most rural or remote RRMA classification and in the least deprived IRSD quartile for claims in that period. The RRMA and IRSD classifications were chosen to allow direct comparison with the results of studies prepared by the South Australian group headed by Wilkinson.[17,18] RRMA classifications and IRSD quartiles of postcodes were derived from data contained in the Health WIZ database program, version 5, based on the 1996 ABS Census.[23] RRMA classifications were collapsed to three categories — RRMA 1–2, RRMA 3–4 and RRMA 5–7 as the earlier evaluation had demonstrated this classification showed natural differences in uptake of health assessments. Data were extracted in early 2004 to ensure that erroneous data due to delay in data entry would be minimised.

The contribution of each personal characteristic to claiming for a health assessment was determined by logistic regression carried out using the SPSS statistical program.[24]

The proposal for this research activity was approved by the Human Research Ethics Committee of the University of Tasmania (H6325) and the DVA Human Research Ethics Committee. Both committees operate under the NHMRC ethical standards for research on human subjects.

Results

The initial sampling frame incorporated 886 185 individuals, 271 939 or 31 percent of whom claimed for at least one health assessment in the 35-month period. Following censoring of those who did not make a claim or had made a GP RACF consultation claim in the preceding 12 months, 827 015 were in the sampling frame for the second 12-month period and 764 469 for the third 12-month period, giving 2.4 million person-years for analysis. The number of individuals in the sample for the third 12-month period was 98 percent of the number of community dwelling older Australians of the relevant age groups counted at the 7 August 2001 ABS census, corrected for known undercount[25,26] and for those who were permanent RACF residents.[14] Given that 2 percent of older Australian women of this age in the Australian Longitudinal Study on Women's Health[27] did not consult a GP in any given year, the sample derived from the HIC data appears complete.

The odds ratios and their 95% CIs for each characteristic are given in the Box. As our sample is complete for practical purposes, errors in our statistics arise from causes other than sampling. Confidence intervals are included for purposes of comparison with other studies.

These show more claims were made for assessments in each successive 12-month period. Health assessment claims were more likely to come from those aged 80–84 years, but those aged 85 or more years were only slightly less likely to claim than those aged 75–79 years. Men were less likely to claim. Claimants were more likely to be eligible for DVA care. Those living in postcodes classified as RRMA 5–7 were less likely to claim, as were those who lived in the three less disadvantaged quartiles of postcodes.

Discussion

Equity has both horizontal and vertical aspects.[28] Horizontal equity refers to equal treatment to equals and vertical equity refers to unequal treat-

Odds ratios and 95% confidence intervals for individual characteristics for having any health assessment claim from 1 October 1999 to 30 September 2002

Characteristic	Odds ratio	95% CI
1999–2000 (reference)		
2000–2001	1.64	(1.62–1.65)
2001–2002	2.14	(2.13–2.16)
Age group 75–79 years (reference)		
Age group 80–84 years	1.07	(1.06–1.08)
Age group 85+ years	0.97	(0.96–0.98)
Female sex (reference)		
Male sex	0.94	(0.94–0.95)
RRMA 1–2 (reference)		
RRMA 3–4	1.01	(1.00–1.02)
RRMA 5–7	0.82	(0.81–0.82)
Most disadvantaged IRSD quartile (reference)		
Next most disadvantaged IRSD quartile	0.95	(0.94–0.96)
Second least disadvantaged IRSD quartile	0.95	(0.94–0.96)
Least disadvantaged IRSD quartile	0.85	(0.84–0.86)
No DVA benefits (reference)		
DVA benefits	1.24	(1.23–1.25)

RRMA = Rural, Remote and Metropolitan Areas classification. IRSD = Index of Relative Socio-economic Deprivation. DVA = Department of Veterans' Affairs.

ment to unequal need.[28] It was not possible to comment on certain horizontal aspects of equity in this study, as it could only examine differences between groups not within groups.

The demonstrated benefits of health assessments seen in RCTs[4-6] were lowered mortality, slowing the decline in function with ageing, and reducing the rate of admissions to RACFs. These benefits are considered in one meta-analysis[6] to only apply to those aged under 79 years.

The literature associates mortality with being older, male, living in rural environments, in poorer socio-economic circumstances and being a veteran.[9-12] Decline in function is associated with being older, female, living in a rural environment, in poorer socio-economic circumstances and living alone.[8,29,30] Admission to residential aged care is associated with being older, female, perhaps with living in a rural environment, living in poorer socio-economic circumstances and living alone.[31-33] While overseas studies suggest rural domicile may be associated with higher admission rates to residential aged care,[34] AIHW studies just before the commencement of this study report that rural dwellers in Australia were less likely to be admitted compared with those who lived in major urban centres.[35]

Measures that improve access to health care for those in these high-risk groups might be considered to improve equity. It is not possible to measure whether GPs conscientiously performed health assessments and appropriately applied remediable conditions or preventive measures. Moreover, individuals aged under 79 years — who were most likely to benefit from the proven intervention which is similar to MBS item 702 — were less likely to have claimed for a health assessment. Thus it could be argued that general practice health assessments of older persons in Australia in the first 35 months of their operation may not have been capable of enhancing equity in health outcome.

Equity of access is a different matter. Data over the collection period showed that those potentially at highest risk of poor health, who were less likely to access GP services, were more likely to be assessed than those at lower risk of poor health. Groups who continued to experience potential inequity of access to health assessments were patients aged 85 or more years, males and residents of postcodes classified as RRMA 5–7. Older men tend to have less disability than older women[8] and as they do not need frequent medical attention may have been less likely to be approached by GPs for a health assessment. With the exception of those living in postcodes classified as RRMA 5–7, the inequalities were small. The low uptake in RRMA 5–7 probably reflected the shortage of GPs in such

localities, with less availability of GPs and nurses to conduct health assessments.[19] However, by the third data collection period the difference in uptake between RRMA 1–4 and RRMA 5–7 postcodes had significantly narrowed and the difference might also have been due to delays in rolling out educational programs to inform rural GPs and practice nurses of health assessment requirements.

A limitation of this study is the possibility of ecological fallacy where those from deprived localities who claimed, or those from less advantaged localities who did not claim for a health assessment, may not have been at higher or lower risk of poor health as their personal circumstances were not reflective of that of their neighbours. Similar arguments could be made about rurality. Given the almost complete sampling frame and the high uptake rate of assessments, it seems scarcely likely that the observed directions of relationships between predictors and assessment uptake in the population could be reversed within the majority of postcodes.

Health assessments may have other less measurable benefits such as identifying those in need of other services, improving compliance with health care or improving relationships with the patient's GP and other practice staff. Improved relationships with the GP and practice staff have been shown to improve health status and compliance with treatment plans.[36] Assessments may also improve the income of GPs in medically unattractive locations and, by attracting or retaining GPs, improve access to general practice care.[16]

Unlike some other aspects of community health care, general practice health assessments of older Australians appears to have improved equity of access.

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Competing interests

Dr Gill serves as a member of the DVA Local Medical Officer National Advisory Committee. He has received funding to travel to meetings of this committee only.

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